

ABSTRACT

[0105] An osmolarity measuring system comprising microscale electrode arrays is configured to account for variations and defects in the arrays using a tiered approach comprising several calibration methods. One method accounts for the intrinsic conductivity of the electrodes and subtracts out the intrinsic conductivity on a pair-wise basis, when determining osmolarity of a sample fluid. Other methods in the tiered approach use standards to determine calibration factors for the electrodes that can then be used to adjust subsequent osmolarity measurements for a sample fluid. The use of a standard can also be combined with a washing step.